


AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method comprising:

identifying a failure within a first failed feature in a computer aided design (CAD) assembly; and
automatically providing a first set of treatments for the failure within the first failed feature from which to select, said first set of treatments based at least in part on the failure within the first failed feature, said failure resulting from modifications of one or more features of the CAD assembly.

2. (Original) The method of claim 1 further comprising:

identifying failures within a plurality of additional failed features among a plurality of features comprising the CAD assembly; and

 automatically providing a plurality of respective sets of treatments for each failure within the plurality of additional failed features from which to select, each of said plurality of respective sets of treatments based at least in part on a corresponding failure.

3. (Previously Amended) The method of claim 1 wherein the identifying is based at least in part on at least one of an error message and a warning message generated during execution of the CAD assembly.

4. (Previously Amended) The method of claim 1 further comprising:

generating a diagnosis object for each failed feature of the CAD assembly, each

diagnosis object comprising information to facilitate at least one of identifying and illustrating at least one failure in a respective failed feature.

storing each diagnosis object in persistent memory;

retrieving a diagnosis object from the persistent memory corresponding to the first failed feature based on an indication of the first failed feature; and

providing information to facilitate at least one of identifying and illustrating the failure in the first failed feature based on the diagnosis object corresponding to the first failed feature.

5. (Original) The method of claim 4 wherein the information comprises at least one of a CAD assembly identifier, a failure text description, a feature identifier, an instance transform, a feature geometry, a feature coordinate set, a failure result type, and a set of feature dependencies.

6. (Original) The method of claim 1 further comprising:
receiving a selection indicating the first failed feature.

7. (Original) The method of claim 6 wherein receiving the selection comprises one of
receiving a pointer command from a browser that lists the first failed feature;
receiving a toolbar command followed by a pointer indication in a list including the first failed feature; and
receiving a menu command followed by a pointer indication in a list including the first failed feature.

8. (Original) The method of claim 6 further comprising:

providing an indication of at least one primary failed feature if the first failed feature is a secondary failed feature; and

providing an option to select from the at least one primary failed feature if the first failed feature is a secondary failed feature.

9. (Original) The method of claim 1 further comprising at least one of:

providing a detailed textual description of the failure within the first failed feature;

designating the first failed feature in a graphical representation of the CAD assembly;

stepping through execution of the CAD assembly; and

listing at least one feature upon which the first failed feature depends.

10. (Previously Amended) The method of claim 9 wherein providing the detailed textual description comprises at least one of:

providing at least one of an error message and a warning message corresponding to the failure within the first failed feature, said at least one of an error message and a warning message being generated during execution of the CAD assembly;

providing an extended message from a data structure of extended messages based on the failure within the first failed feature; and

providing a calculated response based on a deviation of the failure within the first failed feature from acceptable values.

11. (Original) The method of claim 9 wherein designating the first failed feature comprises at least one of:


implementing a command to toggle highlighting of a representation of the first failed feature;

sonaring in on the representation; and

zooming in on the representation.

12. (Original) The method of claim 11 further comprising:

generating at least one of a set of at least one edge of the first failed feature, a set of at least one surface of the first failed feature, and a graphical error icon for use as the representation of the first failed feature, wherein the representation indicates where the first failed feature would have been generated in the CAD assembly.

 13. (Original) The method of claim 9 wherein stepping through execution of the CAD assembly comprises at least one of:

executing only a next feature in the CAD assembly after receiving a next feature indication from a user;

sequentially executing the CAD assembly at a reduced rate;

pausing execution after each feature on which the first failed feature depends is executed; and

designating only a most recently executed feature in the CAD assembly as the CAD assembly is executed.

14. (Original) The method of claim 1 further comprising:

receiving a selection indicating one of the first set of treatments; and
automatically initiating the selected treatment.

15. (Original) The method of claim 14 wherein the first set of treatments comprises at least one of an edit treatment, a delete treatment, a suppress treatment, a reorder treatment, and a targeted edit treatment, and wherein automatically initiating the selected treatment comprises one of:

opening the user interface used to create the CAD assembly;

deleting the first failed feature from the CAD assembly;

suppressing the first failed feature in the CAD assembly;

moving the first failed feature to a different place in an execution sequence of the CAD assembly; and

opening a reduced function user interface to edit a parameter of the first failed feature predicted to be responsible for the failure within the first failed feature.

16. (Original) The method of 15 wherein opening the user interface comprises at least one of:

zooming in on coordinates of the first failed feature in the CAD assembly;

designating the first failed feature in the CAD assembly; and

rolling back execution of the CAD assembly to just before execution of the first failed feature.


17. (Original) The method of claim 15 wherein moving the first failed feature comprises one of:

receiving a user indication of where the first failed feature should be move; and
receiving a selection indicating a suggested location for the first failed feature.

18. (Previously Amended) The method of claim 15 wherein opening the reduced function user interface comprises:

opening a parameter editing field; and
suggesting at least one of a value and a value range for the parameter.

19. (Original) The method of claim 1 wherein automatically providing the first set of treatments comprises:



accessing a plurality of available treatments, each of said available treatments including a list of failures to which the respective treatment applies;
comparing the failure within the first failed feature to the list of failures for each of said available treatments; and
adding treatments to the first set of treatments based on the comparing.

20. (Currently Amended) An apparatus comprising:

first logic to identify a failure within a first failed feature in a computer aided design (CAD) assembly; and
second logic to automatically provide a first set of treatments for the failure within the first failed feature from which to select, said first set of treatments based at least in

part on the failure within the first failed feature, said failure resulting from modifications of one or more features of the CAD assembly.

21. (Previously Amended) The apparatus of claim 20 further comprising:


third logic to receive a selection indicating the first failed feature; and

fourth logic to provide information to facilitate at least one of identifying and illustrating the failure within the first failed feature.

22. (Original) The apparatus of claim 20 further comprising:

third logic to receive a selection indicating one of the first set of treatments; and

fourth logic to automatically initiate the selected treatment.

 23. (Currently Amended) A machine readable storage medium having stored thereon machine executable instructions, execution of said instructions to implement a method comprising:

identifying a failure within a first failed feature in a computer aided design (CAD) assembly; and

automatically providing a first set of treatments for the failure within the first failed feature from which to select, said first set of treatments based at least in part on the failure within the first failed feature, said failure resulting from modifications of one or more features of the CAD assembly.

24. (Previously Amended) The machine readable storage medium of claim 23 having stored thereon machine executable instructions, execution of said instructions to

implement the method further comprising:

receiving a selection indicating the first failed feature; and

providing information to facilitate at least one of identifying and illustrating the failure within the first failed feature.

25. (Original) The machine readable storage medium of claim 23 having stored thereon machine executable instructions, execution of said instructions to implement the method further comprising:

receiving a selection indicating one of the first set of treatments; and

automatically initiating the selected treatment.
